

Amendments to the Drawings:

The attached sheets of drawings include changes to Figs. 7A and 7B. These sheets replace the original sheets including Figs 7A and 7B.

Attachment: Replacement Sheet (2)
Annotated Sheet Showing Changes (2)

REMARKS/ARGUMENTS

This communication is responsive to a telephonic interview with Examiner B.L. Deppe on September 22, 2005 and to the FINAL Office Action of June 8, 2005 in which the following objections were raised: [1-2] The drawings, specifically Figures 7A-7B, were objected to because reference number 724A was used to designate both an adder and a subtractor; [3] the amendment to the Abstract made in the preceding Office Response was not compliant since it did not commence on a separate sheet; [4] the amendments to the specification on pages 2,8 of the response filed on January 24, 2005 were objected to designate the proper locations of the replacement paragraphs; [5] Claims 1,10,12, 13 were objected to because of informalities; [6-8] Claims 1-4, 8-9 and 10-13 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement; [10-15] Claims 1-4, 8, 10-13 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

Applicant appreciates the Examiner's detailed Office Action. Applicant has amended all remaining Claims 1, 3,4, 10, 12,13.

TELEPHONIC INTERVIEW WITH EXAMINER DEPPE 9-22-2005

The Applicant greatly appreciates the telephonic interview with Examiner Deppe on 9-22-2005 in which the objections to the Claims under 35 U.S.C. 112 as regards the replicating and encoding steps were discussed. The Applicant agreed with Examiner Deppe that it is the encoding that results in redundancy and has amended the claims accordingly.

The Applicant and Examiner also discussed the Laroia reference U.S. Patent 6,628,722 which the Examiner had cited in the preceding Office Action of 7-23-2004. The Applicant concurred with the Examiner that the Laroia reference taught the use of an encoder introducing time domain redundancy into the transmissions of an ADSL modem. The

Applicant and Examiner discussed the fact that nowhere in the Laroia reference is their teaching, or suggestion of orthogonality between the encoding of the upstream and downstream communications, which feature is one of the Applicant's claimed limitations. The Applicant and Examiner also discussed the fact that the Laroia upstream and downstream communications are frequency division multiplexed and thus do not share overlapping frequency ranges, which feature is another of the Applicant's claimed limitations. The interview concluded with the Applicant indicating an RCE would be filed and the Claims would be amended.

1-2. DRAWING OBJECTION FOR FIGS. 7A-7B:

The drawings, specifically Figures 7A-7B, were objected to because reference number 724A was used to designate both an adder and a subtractor.

The Applicant has amended to correspond with the specification to correspond with the drawings in which subtractor 724A in the Walsh decoder 338A of FIGS. 7A-7B and the adder 724A in the Walsh decoder 338B of FIGS. 7A-7B are appropriately referred to in the specification and assigned revised reference numbers in the attached replacement sheets and the amended specification. The Applicant therefore respectfully requests that this objection be withdrawn.

3. AMENDMENT OF ABSTRACT OBJECTED TO DUE TO FORMAT:

The amendment to the Abstract made in the preceding Office Response was not compliant since it did not commence on a separate sheet;

Applicant has amended the abstract to overcome the objection and respectfully requests that it be withdrawn.

4. AMENDMENT OF SPECIFICATION ON PAGES 2,8 OBJECTED TO:

The amendments to the specification on pages 2,8 of the response filed on January 24, 2005 were objected to designate the proper locations of the replacement paragraphs.

Applicant has amended the corresponding portions of the specification designating the proper locations of the replacement paragraphs, and therefore respectfully requests that this objection be withdrawn.

5. CLAIMS 1,10,12,13 OBJECTED TO DUE TO INFORMALITIES:

Claims 1,10,12, 13 were objected to because of informalities.

Applicant has amended the objected to Claims to conform with the Examiners suggested corrections, and therefore respectfully requests that this objection be withdrawn.

6-8. CLAIMS 1-4, 8-9,10-13 REJECTED UNDER 35 U.S.C. 112, FIRST PARA.:

Claims 1-4, 8-9 and 10-13 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

As discussed above in connection with the summary of the Examiner interview the Applicant has amended the Claims to clarify, as the Examiner suggests, and as is supported in the portions of the Applicant's specification cited by the Examiner, that it is the encoding that generates redundancy in one of the time or frequency domain. The Applicant therefore respectfully requests that this grounds for rejection be withdrawn.

9. CLAIM 3 REJECTED UNDER 35 U.S.C. 112, FIRST PARA.:

Claim 3 was rejected under 35 U.S.C. 112, first paragraph as not describing an encoder with a Walsh encoder and a decoder with a Walsh decoder.

The Applicant has amended the Claims to claim Walsh encoder and decoders directly as shown in FIGS. 3,4,5,7A and 7B and corresponding portions of the specification. The Applicant therefore respectfully requests that this grounds for rejection be withdrawn.

10-15 CLAIMS 1-4, 8, 10-13 REJECTED UNDER 35 U.S.C. 112, FIRST PARA:

Claims 1-4, 8, 10-13 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

The operation of the Walsh decoders 338A-338B shown in FIGS. 7A-7B has in common with all Walsh decoders the combination of a codeword with a received signal stream. The embodiment shown in FIGS. 7A-7B sets forth detailed decoder hardware operable in the case of FIG. 7A on the tones within a symbol and in the case of FIG. 7B on successive symbols to decode same thereby removing the redundancy in the frequency or time domain redundancy there from. The Walsh codeword used to encode and decode the upstream communication channel is orthogonal to the Walsh codeword used to encode and decode the downstream communication channel, e.g. (+1,-1) and (+1,+1).

The Applicant therefore respectfully requests that this ground for rejection be withdrawn.

CONCLUSION

In view of the above remarks, and the amendments to the Claims, Applicant respectfully submits that all remaining Claims 1,3,4, 10,12,13 have been placed in a condition for allowance, and requests that they be allowed. Early notice to this effect is solicited.

The Commissioner is authorized to charge any additional fees which may be required, including petition fees and extension of time fees to Deposit Account No. 50-1338 (Docket No. VELCP009C).

Respectfully submitted,

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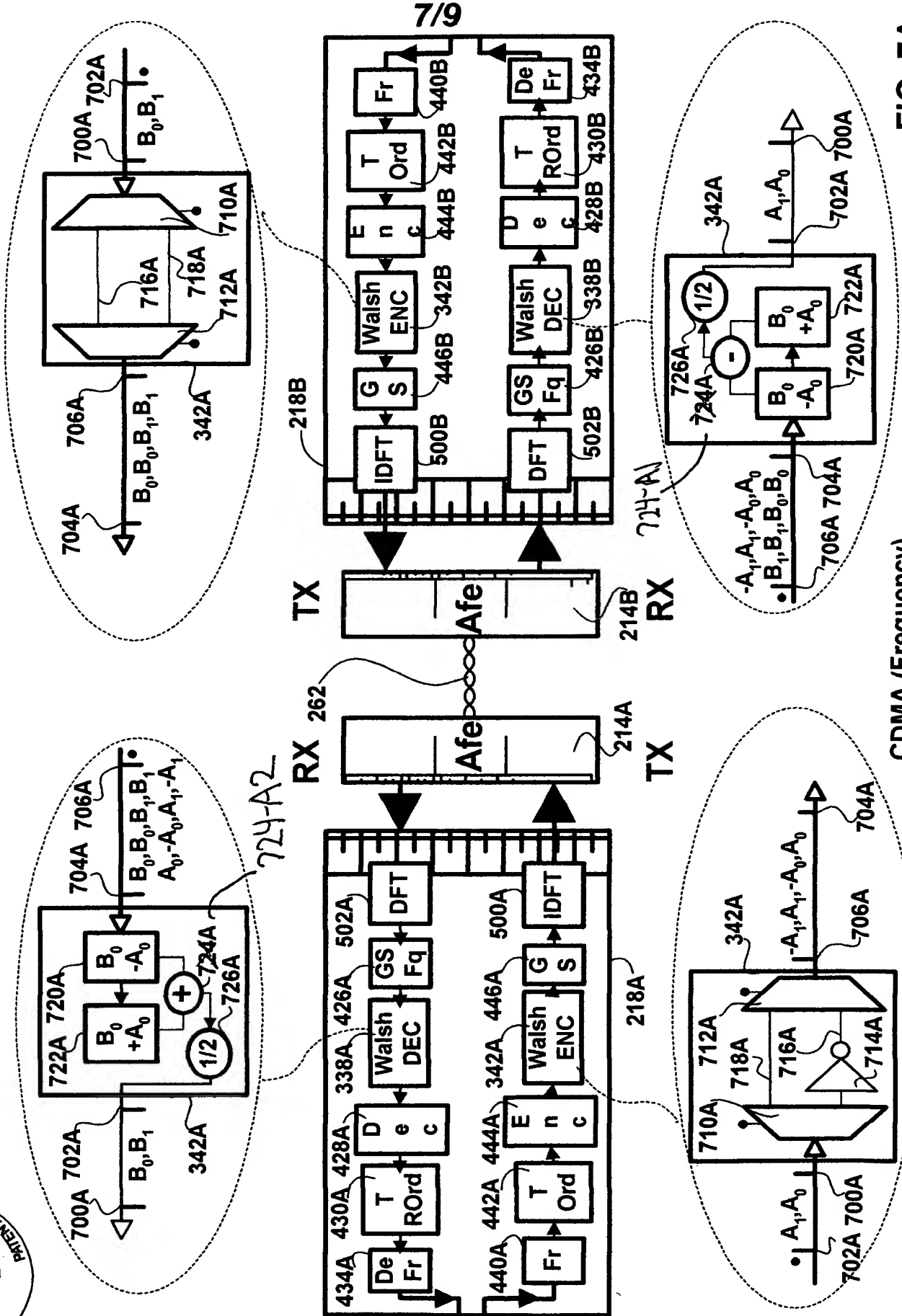


FIG. 7A

CDMA (Frequency)

8/9

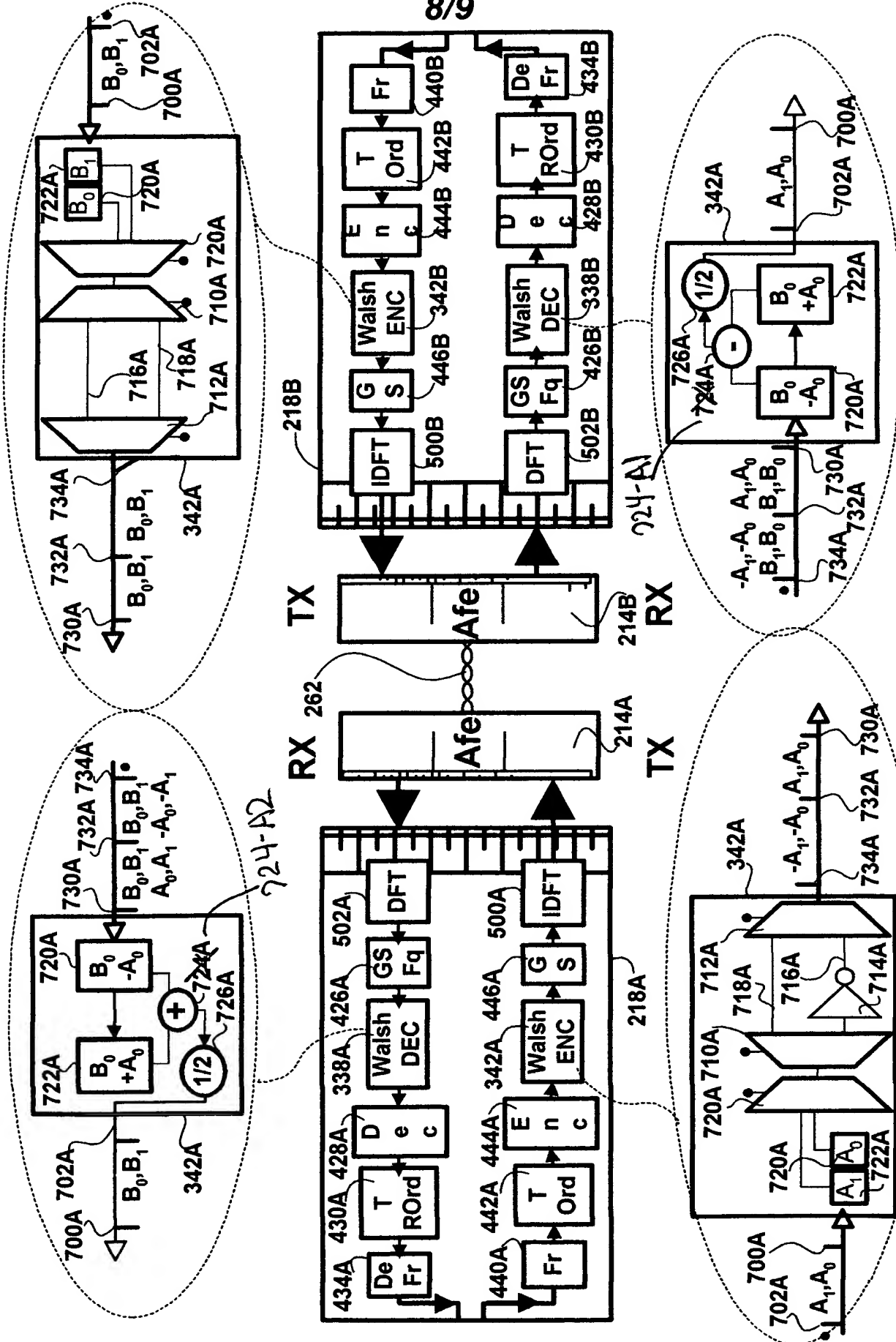


FIG. 7B

CDMA (Time)